

ORIGINAL

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

In the Matter of )  
Establishing an Advisory )  
Committee to Negotiate Regulations )  
for the Shared Use of the )  
27.5 - 29.5 GHz Band By Local )  
Multipoint Distribution Service )  
and Satellite Services )

CC Docket No. 92-297

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

TO: The Commission

**COMMENTS AND APPLICATION FOR MEMBERSHIP  
OF TELEDESIC CORPORATION**

**TELEDESIC CORPORATION**

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## **SUMMARY**

Teledesic Corporation supports the Commission's establishment of an Advisory Committee in CC Docket 92-297 to negotiate technical regulations to govern sharing of the 27.5 - 29.5 GHz band by the proposed Local Multipoint Distribution Service ("LMDS") and satellite services. The proposed negotiated rulemaking proceeding clearly is in the public interest and meets the requirements of the Negotiated Rulemaking Act of 1990. Moreover, negotiated rulemaking provides a better forum for resolving the issues involved in the proposed sharing of the 28 GHz band, which are sophisticated technical issues with economic implications, than does traditional notice and comment rulemaking. Thus, the interference analyses which must be examined and the underlying assumptions of these analyses which must be evaluated can best be addressed in the context of a negotiated rulemaking proceeding because such a proceeding provides for a continuous dialogue between FSS and LMDS technical experts, which would not be possible in a conventional rulemaking proceeding that relies exclusively on written comments and reply comments.

The Commission has correctly identified the general types of interests that will be affected by the proposed rules, i.e., LMDS developers, manufacturers, and licensees; pending MSS applicants; and FSS applicants and service providers. However, Teledesic, which will be significantly affected by any rules

proposed as a result of the Advisory Committee's negotiations, cannot be adequately represented by any of the parties specified in the Commission's Notice as potential members of the Committee. Teledesic cannot be represented by the MSS proponents, because it proposes to provide FSS and will offer services that are very different from the services to be provided by the MSS proponents. Unlike the sole commercial FSS applicant named in the Notice, which proposes a geostationary system, Teledesic proposes a non-geostationary LEO satellite system. Moreover, the technical specifications and parameters of Teledesic's system are significantly different from those of any other system. Thus, none of the entities identified by the FCC as possible members of the Advisory Committee is in a position to adequately represent Teledesic's interests in the proposed negotiations. Teledesic therefore applies for and should be granted membership on the Committee.

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To: The Commission

**COMMENTS AND APPLICATION FOR MEMBERSHIP  
OF TELEDASIC CORPORATION**

Teledesic Corporation ("Teledesic")<sup>1/</sup>, by its attorneys and pursuant to the Public Notice released February 11, 1994 ("Notice")<sup>2/</sup>, by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceeding, hereby submits its comments on the proposal to establish an Advisory Committee ("Committee") to negotiate technical regulations to govern sharing of the 27.5 - 29.5 GHz band by the proposed Local Multipoint Distribution Service ("LMDS") and satellite services.

On March 21, 1994, Teledesic filed an application with the FCC to construct, launch and operate a global network of low-Earth orbit ("LEO") satellites in the Fixed Satellite Service ("FSS") that will help deliver a wide array of affordable, yet

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<sup>1/</sup> Teledesic is a California corporation which has previously participated in the rulemaking proceeding under the name Calling Communications Corporation. Calling Communications Corporation recently changed its name to Teledesic.

<sup>2/</sup> 59 Fed. Reg. 7961 (1994).

advanced, interactive broadband information services to people in rural and remote parts of the United States and the world. The spectrum Teledesic proposes to use for its terminal-satellite uplinks and GigaLink-satellite uplinks is in the 27.5 - 29.5 GHz band. Therefore, Teledesic will be significantly affected by any rules proposed by the Committee. As Teledesic will demonstrate herein, its interests will not be adequately represented by any of the parties tentatively identified for membership on the Committee by the Commission. For the reasons set forth below, Teledesic supports the creation of a Committee to conduct a negotiated rulemaking and requests membership on the Committee.

**I. Introduction: The Commission's Proposal**

In its Notice, the Commission proposes to establish a committee under the Federal Advisory Committee Act, 5 U.S.C. App. 2, and the Negotiated Rulemaking Act of 1990 ("NRA"), 5 U.S.C. § 581 et seq. (Supp. III 1991), to negotiate regulations for the shared use of the 27.5 - 29.5 GHz band by satellite uplink and terrestrial point-to-multipoint service providers. As explained in the Notice, the Commission has proposed to redesignate the use of the 27.5 - 29.5 GHz band from the point-to-point terrestrial service to LMDS.<sup>3/</sup> This band already is allocated on a co-primary basis to FSS and the Commission is proposing to allocate a portion of this band for satellite earth stations

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<sup>3/</sup> Rulemaking to Amend Part 1 and Part 21 of the Commission's Rules to Redesignate the 27.5 - 29.5 GHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service, Notice of Proposed Rulemaking, 8 FCC Rcd 557 (1993).

("feederlinks") that will interconnect with proposed new non-geostationary mobile satellite systems.4/

The Committee's primary goal will be to develop technical rules for LMDS and FSS that will maximize sharing of the 27.5 - 29.5 GHz band by the two services. Notice at 3. If the Committee concludes that all proposed FSS and LMDS uses of the band may be accommodated, the FCC expects the Committee to recommend specific rules to effectuate a sharing plan and to analyze the benefits of its proposed solution against the benefits of other options for accommodating these services.

Id.5/

The Commission has identified the following interests that most likely will be affected significantly by any sharing rules: LMDS developers, manufacturers, and licensees; pending mobile satellite service ("MSS") applicants in the 1610 - 1626.5 and 2483.5 - 2500 MHz bands who filed applications by the June 2,

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4/ Second Notice of Proposed Rulemaking, CC Docket 92-297, FCC 94-12 (released February 11, 1994).

5/ In connection with this analysis, the Commission proposes that the Committee address the following issues: (1) the definition of the product and geographic markets for the proposed services; (2) the degree of competition anticipated within the relevant market (including the extent to which the proposed services are expected to compete with existing services); (3) the degree to which new services and technological innovations will be stimulated by the proposed allocation; (4) the amount and nature of investment in the national telecommunications infrastructure expected as a result of the use of the band for the particular services; (5) the kind and number of jobs that would be created as a result of the licensing of particular services; and (6) any other available data concerning the economic growth expected to result from the use of the spectrum for the particular services. Notice at 3-4.

1991 cut-off date; and FSS applicants and service providers. Id. at 4.6/ The Commission proposes that the Committee should not have more than 25 members, stating that a number larger than this could make it difficult to conduct efficient negotiations. Id. at 5.

## **II. A Negotiated Rulemaking Is in the Public Interest and Should Be Established**

Under the NRA, to initiate a negotiated rulemaking proceeding the Commission must evaluate a number of factors to determine whether the use of such a process is in the public interest. Thus, the Commission must consider whether there is a need for the rules which the Committee would propose, as well as whether there are a limited number of identifiable interests that would be significantly affected by the rules. The Commission must also determine whether there is a reasonable likelihood that a committee could be convened with a balanced representation of parties who could adequately represent these interests and must identify parties who would be willing to negotiate in good faith to reach a consensus on the proposed rules.

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6/ The Commission has tentatively identified the following as "potentially affected interests": Suite 12 Group, Bell Atlantic Companies, Video/Phone Systems, Inc., Endgate Company, Gigahertz Equipment Company, David Sarnoff Research Center, the University of Texas System, NASA, Ellipsat Corporation, Motorola Satellite Communications, Inc., Constellation Communications, Inc., Loral/Qualcomm Satellite Service, Inc., TRW, Inc., American Mobile Satellite Corporation, Hughes Space and Communications Company, a representative of public television and educational parties commenting in CC Docket 92-297, Comsearch, Inc., and the Domestic Facilities Division of the FCC's Common Carrier Bureau. Notice at 4.



In addition, under the NRA the Commission must consider whether there is a reasonable likelihood that a negotiated rulemaking committee would reach a consensus on proposed rules within a fixed period of time and must evaluate whether the negotiated rulemaking procedure would unreasonably delay the release of a notice of proposed rulemaking and the issuance of final rules. The FCC also must examine whether it has adequate resources and is willing to commit such resources to the committee. Finally, the NRA requires the Commission to consider whether it will, to the maximum extent possible consistent with its legal obligations, use the consensus of the committee as the basis for the rules which it ultimately proposes for notice and comment. 5 U.S.C. § 583(a).

Teledesic submits that the establishment of a Committee meets the requirements of the NRA. First, technical rules are necessary to establish the circumstances under which any sharing between satellite services and LMDS is technically and economically feasible. Second, the FCC has identified correctly the limited number of types of interests that will be significantly affected by such rules -- LMDS developers, manufacturers, and licensees; pending MSS applicants; and FSS applicants and service providers.

In addition, a Committee can be established which is comprised of a balanced representation of persons who adequately represent the identifiable interests that will be affected by the rules, and there is no reason to believe that such

representatives are not willing to negotiate in good faith to reach a consensus. Indeed, members of the Committee will have every incentive to engage in such good faith negotiations because of the potential adverse consequences for them if they do not agree upon a sharing arrangement. Moreover, based on a review of the comments filed to date in the above-captioned rulemaking proceeding, the number of participants in the Committee will not exceed 25.

If a consensus can be reached, it is likely that such an accord can be accomplished within the time frame envisioned by the NRA. The timetable proposed by the FCC, while ambitious, is realistic and adequate for conducting negotiations and preparing recommendations. Thus, Teledesic believes that the Committee can hold meetings from April to June 1994. Moreover, the Committee should be able to submit recommendations to the FCC by no later than July 1994 for inclusion in a Further Notice of Proposed Rulemaking by October 1994.

Teledesic does not believe that the negotiated rulemaking proceeding will delay adoption of the contemplated Further Notice of Proposed Rulemaking or the issuance of final rules on the LMDS/FSS sharing and interference issues. Currently, the FCC does not have an adequate record to adopt rules addressing LMDS/FSS sharing and interference issues. Thus, if the negotiated rulemaking process were not employed, the FCC still would be obligated to solicit another round of comments and reply comments on LMDS/FSS sharing and interference issues before

adopting any technical rules. Under this scenario, the Commission would not be in position to propose rules prior to October 1994.

The FCC has acknowledged that it has adequate resources to commit to the proposed negotiated rulemaking proceeding and, by its Notice, has expressed its willingness to devote such resources to the Committee. Notice at 3. The FCC also has committed to use the consensus report of the Committee to develop proposed technical rules. Notice at 3. Based on the foregoing, it is apparent that the establishment of a Committee meets the requirements of the NRA and is in the public interest.

**III. Regulatory Negotiation is a More Appropriate Means of Addressing the Sharing Issue Than Traditional Notice and Comment Procedures**

The creation of regulations for the sharing of the 28 GHz band by LMDS and satellite services will require the resolution of sophisticated technical issues that have economic implications. Thus, in order for the Committee to determine whether and how LMDS and satellite services can share this frequency band, different interference analyses must be conducted based on an agreed-upon set of technical assumptions. A negotiated rulemaking proceeding is the optimum forum for addressing and reaching a consensus on such technical issues because it requires a continuous two-way exchange between FSS and LMDS technical experts. Such a dialogue is not feasible when formal rulemaking procedures are employed.

When parties communicate their points of view exclusively through written comments and reply comments, different operating assumptions are likely to be employed, resulting in conflicting interference analyses. Moreover, key issues may be sidestepped. Thus, the negotiated rulemaking process provides a better means of reaching consensus on the interference implications of spectrum sharing than does traditional notice and comment rulemaking. Moreover, the give and take of a negotiated rulemaking proceeding provides an ideal platform for discussion of the economic tradeoffs resulting from the imposition of any operational constraints that may be proposed for LMDS and FSS operations in any possible sharing arrangement.<sup>7/</sup>

**IV. While the FCC Has Generally Identified the Interests That Will Be Affected By the Proposed Rulemaking, the Members of the Advisory Committee Tentatively Identified in the Notice Do Not Represent All of the Interests That Will Be Significantly Affected**

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In the Notice, the FCC identifies the general types of interests that it believes will be significantly affected by the proposed negotiated rulemaking. The Commission also identifies a tentative list of potentially affected companies or interests should the FCC proceed with a negotiated rulemaking. The Commission correctly identifies the general types of interests

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<sup>7/</sup> Moreover, as noted above, because of the potential adverse implications for each affected party if consensus is not reached, the Committee will have an incentive to succeed in agreeing upon specific regulatory recommendations if sharing of the 27.5 - 29.5 MHz band is technically and economically feasible.

that will be significantly affected by the negotiated rulemaking. However, the tentative list of prospective Committee members does not include Teledesic or anyone that could represent Teledesic's interests in the negotiated rulemaking.

Under the NRA, parties significantly affected by a proposed rule who believe that their interests will not be adequately represented by any person specified in the agency's notice may apply for membership on the negotiated rulemaking committee. 5 U.S.C. § 584(b). Teledesic is an applicant to construct, launch and operate a non-geostationary LEO satellite system in the domestic and international fixed satellite service in the 28 GHz band. As a pending LEO satellite system applicant in the 28 GHz band, Teledesic will be significantly affected by the redesignation of the use of the 28 GHz band from the point-to-point terrestrial service to LMDS and the development of technical requirements governing the shared use of this spectrum by FSS and LMDS providers.

The only companies on the list that conceivably could have an interest similar to that of Teledesic are the commercial MSS and FSS applicants and service providers. Specifically, the MSS applicants identified by the FCC are Ellipsat Corporation ("Ellipsat"), Motorola Satellite Communications, Inc. ("Motorola"), Loral/Qualcomm Satellite Service, Inc. ("Loral/Qualcomm"), TRW, Inc. ("TRW"), American Mobile Satellite Corporation ("AMSC") and Constellation Communications, Inc. ("Constellation"). The lone commercial FSS applicant or service

provider identified by the FCC is Hughes Space and Communications Company ("Hughes").

Teledesic's interests are not, however, adequately represented by any of the FSS and MSS applicants proposed for membership on the Committee. Unlike the MSS applicants, Teledesic is proposing to provide FSS and not MSS. Moreover, the types of mobile services proposed by the MSS applicants are very different from those that will be provided by Teledesic. Communications services likely to be provided by the MSS applicants are cellular-like mobile services, position location services, search and rescue communications, disaster management communications, environmental monitoring, paging services, facsimile transmission services, cargo tracking, and industrial monitoring and control.<sup>8/</sup> Teledesic, by contrast, will provide bandwidth on demand information services to conform to the end user's needs and location. Open and ubiquitous, like a "Global Internet," Teledesic will offer a means of providing a wide range of broadband channels to support such applications as videoconferencing, interactive multimedia, and real time, two-way digital data.<sup>9/</sup> Each user will be able to configure the

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<sup>8/</sup> Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, Notice of Proposed Rulemaking, CC Docket 92-166, FCC 94-11 (released January 19, 1994).

<sup>9/</sup> Teledesic plans to achieve its goal of bringing the most advanced information services to people who could not be served economically through existing technologies by forming a global partnership of service providers, manufacturers, governments, and  
(continued...)

Teledesic network from moment to moment to accommodate a wide range of applications up to 2.048 Mbps and beyond.

Unlike Hughes, the sole commercial FSS applicant tentatively identified for Committee membership by the FCC, Teledesic is proposing a non-geostationary LEO satellite system. Hughes, on the other hand, is proposing a geostationary satellite system. Moreover, Hughes' system will be employed for the provision of domestic services whereas Teledesic will provide both domestic and international services.

Finally, there is yet another significant difference between Teledesic and the other satellite companies which makes it impossible for such companies to adequately represent Teledesic's interests. The technical specifications and parameters of Teledesic's system are substantially different from those proposed by the MSS and FSS proponents and service providers tentatively identified by the FCC. Teledesic's terminal-to-satellite elevation angles, for example, will be significantly higher than the elevation angles at which Hughes will be forced to operate when serving various cities of potential interest to LMDS operators, including Seattle, New York and Boston. Because of such differences between Teledesic and other satellite systems, the evaluation of potential interference

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9/ (...continued)  
international agencies. Operating as a non-common carrier, Teledesic will provide an open platform for service providers in the United States and host countries to bring the benefits of the information revolution to those who would otherwise be unable to enjoy such benefits.

and sharing possibilities between LMDS and Teledesic will be different from the evaluation of potential interference and sharing possibilities between LMDS applicants and the other FSS and MSS service providers and proponents identified in the Notice. Thus, Teledesic is the only entity qualified to represent its interests in the necessary technical analyses.

For these reasons, none of the entities identified by the FCC as possible members of the Committee is in a position to adequately represent Teledesic's interests in the proposed negotiations. Therefore, Teledesic requests membership on the Committee.

**V.    The Advisory Committee Should Not Compare the Benefits of Any Proposed Solution to Other Options for Accommodating LMDS and Satellite Services in the 28 GHz Band**

Teledesic does not believe the Committee's charter should include an analysis of how the benefits of its recommended solution outweigh the benefits of other possible options. Such an undertaking necessarily requires subjective value judgments and policy determinations, and is not appropriate for a negotiated rulemaking proceeding, the purpose of which is to reach a consensus on a narrow technical issue and make specific recommendations. The Commission has already determined that the use of the 28 GHz band by both LMDS and satellite systems is in the public interest. In the course of building a consensus, the Committee will, of necessity, examine alternative options, and its recommendations will represent what it considers as a group to be the best option. Thus, if LMDS, MSS, and FSS proponents



agree on the technical basis for their shared use of the band, there should be no need for any further cost-benefit analyses. Therefore, Teledesic urges the Commission to adopt any consensus reached by the affected parties independent of other options, provided that the FCC can conclude that the consensus recommendation serves the public interest.

**VI. If the Advisory Committee Determines That Sharing of the 27.5 - 29.5 GHz Band Is Not Feasible, It Should Investigate the Possible Reallocation of a Higher Band for LMDS**

In the event the Committee concludes that sharing of the 27.5 - 29.5 GHz band by LMDS and FSS is not technically and economically feasible, Teledesic urges the Commission to mandate that the Committee explore the technical and economic viability of the use of frequencies above the 27.5 - 29.5 GHz band for LMDS. The 30 - 31 GHz and 32 - 33 GHz bands, for example, are immediately adjacent to the band currently under consideration, and LMDS should not encounter any technical or economic hurdles or delays in using such spectrum. Moreover, while the spectrum presently is allocated in the United States for government use, it is Teledesic's understanding that these bands currently are largely unused and are unlikely to be developed or used in the future by the government. In addition, other frequencies above 36 GHz should be explored for LMDS. For example, Teledesic understands that the 40.5 - 42.5 GHz band was allocated for LMDS use in Northern Europe. Thus, the possibility of reallocating other, higher bands for LMDS should be considered by the

Committee if it determines that sharing of the 27.5 - 29.5 GHz band by LMDS and satellite services is not feasible.

**VII. Application for Membership**

Teledesic hereby applies for membership on the Committee. In response to the Commission's Notice and pursuant to Section 584(b) of the NRA,<sup>10/</sup> Teledesic submits the following information in support of its application:

(a) The name of the applicant for membership is Teledesic Corporation ("Teledesic"). Teledesic will represent its own interests. Teledesic is the sole applicant seeking FCC authority in the 28 GHz band to construct, launch and operate a non-geostationary LEO satellite system for the provision of domestic and international fixed satellite service. Teledesic proposes to operate a global satellite network that will provide for the delivery of broadband, bandwidth-on-demand, real-time, information services at an affordable cost to people in remote parts of the United States and the world.

(b) Teledesic does not request membership on the Committee in order to represent any other party but seeks only to represent its own interests.

(c) Attached hereto is a written commitment from Teledesic that it will actively participate in good faith in the development of the rules under consideration.

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<sup>10/</sup> 5 U.S.C. § 584(b).

(d) As described in more detail in Section IV above, the entities tentatively identified by the Commission for membership on the Committee do not adequately represent Teledesic's interests. The entities either do not have a point of view similar to that of Teledesic with respect to the sharing issue or are not likely to be affected in a manner similar to Teledesic by any proposed sharing rules. See H.R. Rep. No. 101-461, 101st Cong., 2d Sess. 12 (1990), reprinted in 1990 U.S.C.C.A.N. 6697, 6702.

As evidenced by the comments filed in the above-referenced proceeding, none of the non-satellite proponents identified by the FCC in its Notice endorse the position advanced by Teledesic in this proceeding regarding the likelihood of interference between FSS and LMDS. None of the FSS or MSS applicants or service providers identified by the FCC propose to construct, as does Teledesic, a non-geostationary LEO satellite system in the 28 GHz band for the provision of domestic and international fixed satellite service. Moreover, as described in Section IV above, the technical parameters and technical specifications for Teledesic's global system are different from those of other FSS and MSS proponents. Thus, the interference considerations that must be evaluated when analyzing sharing between LMDS and Teledesic are not the same as those that must be analyzed in addressing potential interference between LMDS and other satellite systems. Further, no other entity named in the Commission's Notice has the understanding of Teledesic's proposed

system that would enable it to speak for Teledesic. In sum, Teledesic's interests are fundamentally different from those of the entities specified in the Commission's Notice, and none of these entities is in a position to represent Teledesic's interests.

Teledesic has demonstrated that it will be significantly affected by the rules that will be proposed by the Committee and that its interests will not be adequately represented by any party specified in the FCC's Notice. Teledesic therefore has met the criteria for participating in the proposed Committee, and its application for membership in the Committee should be granted.

Respectfully submitted,

TELEDESIC CORPORATION

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March 21, 1994

**STATEMENT OF COMMITMENT OF APPLICANT**

As set forth in the accompanying Application for Membership, Teledesic Corporation ("Teledesic") applies for membership on the Advisory Committee which the Federal Communications Commission proposes in its Public Notice released February 11, 1994, 59 Fed. Reg. 7961 (1994), to establish in CC Docket 92-297. I hereby certify that Teledesic shall actively participate in good faith in the development of the rules under consideration by this Advisory Committee.



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W. Russell Daggatt  
President  
Teledesic Corporation

Dated: March 18, 1994